

**WHAT IS CLAIMED IS:**

1. A method of NMR measurement comprising the steps of:
  - providing an NMR probe including a flow cell and an inlet tubing connected to said flow cell;
  - 5 providing a heater comprising a twisted-pair wire wrapped around said inlet tubing; causing an electric current to pass through said twisted-pair wire to thereby generate heat; and
  - 10 causing a specified amount of a sample liquid to pass through said inlet tubing into said flow cell of said NMR probe, whereby said sample liquid is preheated before reaching said flow cell.
2. The method of claim 1 further comprising the step of generating a homogeneous magnetic field around said NMR probe.
- 15 3. The method of claim 1, further comprising the steps of monitoring the temperature at said inlet tubing and controlling said electric current according to said monitored temperature so as to maintain said input tubing at a specified temperature level.
- 20 4. The method of claim 2, further comprising the steps of monitoring the temperature at said inlet tubing and controlling said electric current according to said monitored temperature so as to maintain said input tubing at a specified temperature level.
5. The method of claim 3, further comprising the step of selecting said specified temperature level according to said specified amount of sample liquid in order to minimize the time taken by said sample liquid to reach thermal equilibrium.
- 25 6. The method of claim 4, further comprising the step of selecting said specified temperature level according to said specified amount of sample liquid in order to minimize the time taken by said sample liquid to reach thermal equilibrium.
- 30 7. An apparatus for NMR measurement comprising:
  - an NMR probe including a flow cell and an inlet tubing connected to said flow cell;
  - a heater having a twisted-pair wire wound around said inlet tubing;

an electric power source for causing an electric current to pass through said twisted-pair wire to thereby generate heat; and

means for causing a sample liquid to pass through said inlet tubing into said flow cell of said NMR probe, whereby said sample liquid is preheated prior to reaching said flow cell.

5

8. The apparatus of claim 7, further comprising means for providing a homogeneous magnetic field around said NMR probe, wherein said electric current through said twisted-pair wire does not disturb said homogeneous magnetic field.

10 9. The apparatus of claim 7, further comprising means for monitoring the temperature at said inlet tubing and controlling said electric current according to said monitored temperature.

10. The apparatus of claim 8, further comprising means for monitoring the temperature at said inlet tubing and controlling said electric current according to said monitored temperature.

RECORDED IN U.S. PATENT AND TRADEMARK OFFICE  
APR 19 1991